



US005478946A

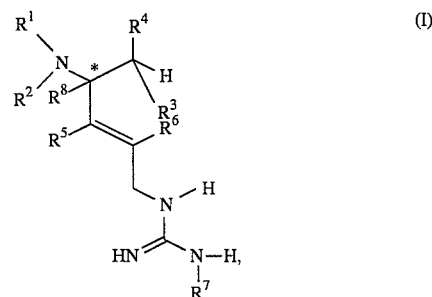
United States Patent [19]**Murad et al.**[11] **Patent Number:** **5,478,946**[45] **Date of Patent:** **Dec. 26, 1995**[54] **GUANIDINO COMPOUNDS AS
REGULATORS OF NITRIC OXIDE
SYNTHASE**[75] Inventors: **Ferid Murad**, Lake Forest; **James F.
Kerwin**, Grayslake; **Lee D. Gorsky**,
Highland Park, all of Ill.[73] Assignee: **Abbott Laboratories**, Abbott Park, Ill.[21] Appl. No.: **159,409**[22] Filed: **Nov. 30, 1993****Related U.S. Application Data**[63] Continuation-in-part of Ser. No. 755,398, Sep. 5, 1991, Pat.
No. 5,288,897, which is a continuation-in-part of Ser. No.
369,364, Jun. 21, 1989, abandoned.[51] **Int. Cl.⁶** **C07D 263/02**[52] **U.S. Cl.** **548/215; 548/567; 560/34;**
564/108; 564/104; 564/226; 564/227; 564/229[58] **Field of Search** 548/215, 567;
560/34; 564/108, 104, 226, 227[56] **References Cited****U.S. PATENT DOCUMENTS**

4,677,226 6/1987 Lutz et al. 564/108

5,296,498 3/1994 Molen et al. 564/401

Primary Examiner—Paul J. Killos*Attorney, Agent, or Firm*—Richard A. Elder; Steven R.
Crowley; Steven F. Weinstock[57] **ABSTRACT**

Compounds of the formula:



useful as regulators of nitric oxide synthase that indirectly modulate cyclic guanosine monophosphate (cGMP), pharmaceutical compositions thereof, for treating disorders of vascular smooth muscles, macrophages, neurons, platelets, bronchial smooth muscles, optic muscles and gastrointestinal smooth muscles, sickle cell anemia and diabetes.

8 Claims, No Drawings